

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A control method for controlling the gas flow by a piston compressor ~~having a piston~~ provided to deliver a varying need of pressurized gas and in which a volume of gas is expanded during an intake stroke and the introduced volume of gas is compressed and taken out through at least one of a non return valve for outflow and/or an operable outlet valve during an evacuation stroke, and in which the compressor has a controllable inlet valve that is pneumatically, hydraulically or electromagnetically operable and that is opened and closed upon basis of a signal from a control system, wherein the inlet valve is kept closed during at least a part of an intake stroke somewhere along a path of said piston from an upper dead point to a lower dead point, the closure timing of the controllable inlet valve being based on a varying need of pressurized gas to be delivered by the compressor.

2. (canceled).

3. (currently amended) The control method according to claim 1, wherein a cycle comprises one intake stroke and one

evacuation stroke of the piston, and wherein the frequency of cycles with closed intake stroke is varied between 0% and 100% of the number of revolutions per minute of a shaft of said compressor in order to, at the given number of revolutions per minute, deliver the amount of the compressed gas required for the moment.

4. (previously presented) The control method according to claim 3, wherein, between each cycle or each continuous series of cycles with closed intake strokes, an equal amount of revolutions are performed.

5. (previously presented) The control method according to claim 1, wherein the inlet valve (2) is closed upon transition, or after the transition, from intake stroke to evacuation stroke.

6. (currently amended) The control method according to claim 1, wherein the inlet of the compressor ~~(1)~~, besides the controllable inlet valve ~~(2)~~, comprises a non return valve ~~(13)~~ for inflow, and that ~~the~~ a conduit for supply of gas to the latter is throttled down or closed by means of a closure member ~~(14)~~ arranged by or upstream the non return valve, by controlling the gas pressure in a tank ~~(8)~~ associated to the compressor.

7. (previously presented) The control method according to claim 6, wherein the closure member (14) is a controllable valve, which is opened and closed upon basis of a signal from the control system.

8. (previously presented) The control method according to claim 1, wherein the outlet of the compressor (1), apart from a non return valve (6) for outflow, comprises a controllable outlet valve (3) which is pneumatically, hydraulically or electro-magnetically operated, and which opens and closes upon basis of a signal from the control system.

9. (previously presented) The control method according to claim 1, wherein the outlet valve (3) is opened as there is a pressure balance between the gas to be evacuated and the gas on the opposite side of the outlet valve (3), the latter being controlled by means of a sensor (18) that registers the cylinder pressure that is compared to the pressure in the tank registered by another sensor (9).

10. (previously presented) The A control method according to claim 1, wherein a conduit (7) that extends between the compressor (1) and the tank (8) fulfills the need of pressurized gas between the compressor and the equipment that will use the pressurized gas.

11. (previously presented) The control system, wherein it comprises a computer program adapted for executing the control method according to claim 1.

12. (currently amended) The control method according to claim 1, wherein a cycle comprises one intake stroke and one evacuation stroke of the piston, and wherein the frequency of cycles with closed intake stroke is varied between ~~0%~~ 50% and 100% of the number of revolutions per minute of a shaft of said compressor in order to, at the given number of revolutions per minute, deliver the amount of the compressed gas required for the moment.

13. (previously presented) The control method according to claim 12, wherein, between each cycle or each continuous series of cycles with closed intake strokes, an equal amount of revolutions are performed.

14. (currently amended) A control method for controlling the gas flow by a compressor having a piston, comprising:

expanding the volume of an introduced gas during an intake stroke;

compressing the introduced volume of gas and evacuating the same amount of gas introduced through at least one of a non-return valve for outflow and an operable outlet valve during an evacuation stroke;

pneumatically, hydraulically or electromagnetically operating a controllable inlet valve of the compressor to open and close upon a basis of a signal from a control system; and

keeping the inlet valve closed during at least part of an intake stroke somewhere along a path of said piston from upper dead center to lower dead center, closure timing of the controllable inlet valve being based on a varying need of pressurized gas to be delivered by the compressor.

15. (previously presented) The control method according to claim 1, wherein said compressor is connected to a combustion engine and is supplied with pressurized air from a turbo or screw compressor of said combustion engine.